WHAT IS CLAIMED IS:

1. A compound comprising the formula:

(I) Z_1-X_1-X_2-X_3-X_4-X_5-X_6-X_7-X_8-X_9-X_{10}-X_{11}-X_{12}-X_{13}-X_{14}-X_{15}-X_{16}-X_{17}-Z_2

wherein:

X_1 is an apolar residue;

X_2 is a hydrophobic residue;

X_3 is an acidic or an aliphatic residue;

X_4 is a basic residue;

X_5 is an apolar residue;

X_6 is an aromatic residue;

X_7 is a polar residue;

X_8 is an aliphatic residue;

X_9 is an acidic or an aliphatic residue;

X_{10} is an aromatic residue;

X_{11} is an aromatic residue;

X_{12} is a polar residue;

X_{13} is Ile;

X_{14} is an apolar residue;

X_{15} is an acidic residue;

X_{16} is a polar residue;

X_{17} is a basic or an aliphatic residue;

Z_1 is H_2N-, RHN- or, RRN-;

Z_2 is -C(O)R, -C(O)OR, -C(O)NHR, -C(O)NRR where each R is independently (C_1-C_6) alkyl, (C_1-C_6) alkenyl, (C_1-C_6) alkynyl, substituted (C_1-C_6) alkyl, substituted (C_1-C_6) alkenyl or substituted (C_1-C_6) alkynyl; and

"—" is a covalent linkage.

2. The compound of Claim 1, wherein:

X_1 is an apolar amino acid;

X_2 is an aromatic amino acid;

X_3 is an acidic amino acid;

X_4 is a basic amino acid;

X_5 is an apolar amino acid;
X_6 is an aromatic amino acid;
X_7 is a polar amino acid;
X_8 is a aliphatic amino acid,
X_9 is a an acidic amino acid;
X_{10} is an aromatic amino acid;
X_{11} is an aromatic amino acid;
X_{12} is a polar amino acid;
X_{13} is Ile;
X_{14} is an apolar amino acid;
X_{15} is an acidic amino acid;
X_{16} is a polar amino acid;
X_{17} is a basic amino acid; and
"—" is an amide, substituted amide or an isostere of amide thereof.

3. The compound of Claim 2, wherein:
X_1 is Gly;
X_2 is Trp or Ala;
X_3 is Asp or Ala;
X_4 is His;
X_5 is Met;
X_6 is Phe;
X_7 is Thr;
X_8 is Val;
X_9 is Asp or Ala;
X_{10} is Phe;
X_{11} is Trp;
X_{12} is Thr;
X_{13} is Ile;
X_{14} is Met;
X_{15} is Glu;
X_{16} is Asn; and
X_{17} is His or Ala.
Z1 is H2N;
Z2 is -C(O)OH; and

"—" is an amide linkage.

4. The compound of Claim 3, wherein said compound is selected from the group consisting of SEQ ID NOS. 1-6.

5. A pharmaceutical composition comprising the compound of Claim 1 and a pharmaceutical excipient carrier or an excipient.

6. A pharmaceutical composition comprising the compound of Claim 2 and a pharmaceutical excipient carrier or an excipient.

7. A pharmaceutical composition comprising the compound of Claim 3 and a pharmaceutical excipient carrier or an excipient.

8. A method of inhibiting TfR binding to transferrin, comprising administering to a subject a therapeutically effective amount of the compound of Claim 1.

9. A method of inhibiting TfR binding to transferrin, comprising administering to a subject a therapeutically effective amount of the compound of Claim 2.

10. A method of inhibiting TfR binding to transferrin, comprising administering to a subject a therapeutically effective amount of the compound of Claim 3.

11. A method of treating an iron overload disease, comprising administering to a subject a therapeutically effective amount of the compound of Claim 1.

12. A method of treating an iron overload disease, comprising administering to a subject a therapeutically effective amount of the compound of Claim 2.

13. A method of treating an iron overload disease, comprising administering to a subject a therapeutically effective amount of the compound of Claim 3.